

CLAIMS

1. A sheet material to be made into an object by an industrial forming process, the material comprising a metal substrate and a polymer coating system bonded thereto, the coating system comprising
 - an inner layer comprising PET, modified PET and/or combinations thereof, as a layer for bonding the system to the substrate;
 - a layer comprising PET, PBT and/or combinations thereof, as a barrier layer;
 - an outer layer comprising PET;wherein the outer layer has non-tacking properties so as to avoid sticking of the material to the forming tools at normal operation temperatures in the industrial forming process.
2. Sheet material according to claim 1 wherein the outer layer has a sufficiently high melting point and glass transition temperature in order to avoid tacking.
3. Sheet material according to claim 1 or 2 wherein the barrier layer comprises a mixture of PET and PBT and wherein the PBT-content of the mixture is preferably at least about 10%, more preferably at least about 15% and more preferably at least about 20%.
4. Sheet material according to any one of the claims 1 to 3 wherein the barrier layer comprises a mixture of PET and PBT and in that the PBT-content of the mixture is at most about 60%.
5. Sheet material according to any one of the claims 1 to 4 wherein the barrier layer comprises a mixture of approximately 50% PET and approximately 50% PBT.
6. Sheet material according to any one of the claims 1 to 4 wherein the barrier layer comprises a mixture of PET and PBT and in that the PBT-content of the mixture is between about 25 % and about 35%
7. Sheet material according to any one of the claims 1 to 6 wherein the outer layer has a glass transition temperature of at least 70 °C so as to avoid tacking.
8. Sheet material according to any one of the one of the claims 1 to 7 wherein the outer layer has a melting temperature of at least 240 °C so as to avoid tacking.

9. Sheet material according to any one of the one of the claims 1 to 8 wherein the thickness of the barrier layer is at least 10 μm , preferably at least 15 μm .
- 5 10. Sheet material according to any one of the one of the claims 1 to 9 wherein the total thickness of the coating system is smaller than 40 μm , preferably between 20 and 35 μm , more preferably about 30 μm .
- 10 11. Metal container made from a sheet material according to any one of the claims 1 to 10.
12. Metal container according to claim 11 wherein the substrate substantially comprises steel or a steel alloy or aluminium or an aluminium alloy.
- 15 13. Metal container according to claim 11 or 12 wherein the substrate is electrochromium coated steel (ECCS) or tinplate.
14. Metal container according to any of the claims 11 to 13 wherein the metal container is a beverage can.
- 20 15. Process for producing a sheet material according to any of the claims 1 to 10 wherein the coating system is produced in situ by extrusion of a layer or co-extrusion of at least two layers using a suitable feed-block/die set-up.
- 25 16. Process for producing a sheet material according to any of the claims 1 to 10 characterised in that the coating system is formed by first preparing a film comprising one or more layers of the coating system, optionally stretching the film, and applying it to the substrate.
- 30 17. Process for producing a sheet material according to claim 16 wherein the film comprising the barrier and outer layer, which is optionally stretched the film before applying it to the substrate, is applied to the substrate which is already provided with the inner layer.